Winnebago Reclamation Service, Inc.

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Dear Bernie and Gordie,

I am writing to comment on the Proposed Plan for the Operable Unit 2 Remedy and Main Groundwater Remedy Modification for the Pagel's Pit (Winnebago Reclamation Landfill) site.

Southeast Corner

The Southeast Corner Operable Unit consists of the groundwater in the area in the southeast corner of the NPL site. This operable unit was the subject of a supplemental groundwater investigation following the completion of the RI/FS for the site as a whole and was specifically excluded from the Record of Decision adopted for the remainder of the site. The purpose of the supplemental groundwater investigation was "to further define the upgradient background groundwater quality and to determine if a continuous volatile organic compound (VOC) plume exists between the Acme Solvent and WRL Site." The conclusions reported in the Phase I and Phase IA Investigation Report for the Southeast Corner Operable Unit included the following:

- The highly fractured zones create a pathway for migration of contaminants found at the Acme Solvent Site to the WRL Site (Southeast Corer) and beyond.
- Some of the VOC's present in the southeast corner of the WRL Site probably migrated from the Acme Solvent Site.

Comment 1. The "No Action" alternative is the appropriate remedy for the Southeast Corner Operable Unit. One of the purposes of the groundwater extraction system in place at the Acme Solvents Site is to prevent the migration of groundwater contamination from the Acme Solvents Site to the "Southeast Corner Area" and other areas west of the Acme Solvents site. If it is successful in doing so, no other remedial action will be necessary to address the groundwater contamination in the Southeast Corner. If it is not successful, the appropriate response is to revise the Record of

Decision for the Acme Solvents Site to require the responsible parties at that site to address the groundwater contamination in the Southeast Corner.

Comment 2. The summary of the analytical data for the VOC contamination in the Southeast Corner wells which is set forth on pages 4 and 5 of the Proposed Plan and the table set forth in Table 1 report the range of certain VOC concentrations detected in the Southeast Corner wells (G109, G109A, G113, G113A, G120B) in 1997, 1998, and 1999. Neither the text nor the table report the instances in which these contaminants were not detected. In fact, in the 1999 sampling, none of the specified VOC's (tetrachloroethene, trichloroethene, cis-1, 2-dichloroethene, vinyl chloride, and 1, 2-dichloropropane) were detected in the Southeast Corner wells. Both cis-1,2 dichloroethene and trichloroethene, however, were detected in G120B, the upgradient "pathway" well. The fact that the relevant VOC contamination in the Southeast corner was not detected in the most recent sampling events supports the selection of the "No Action" alternative.

Comment 3. In the Baseline Risk Assessment for the Pagel's Landfill Site, the contaminants in the groundwater which created a calculated health risk under the future use scenario were thallium, zinc, arsenic, vinyl chloride, and 1,2-dichloroethene. As the Proposed Plan notes, the concentration of these contaminants in the groundwater have been generally decreasing or remaining similar to the levels used in the Baseline Risk Assessment. In the 1999 sampling in the Southeast Corner, moreover, vinyl chloride was not detected, arsenic was detected in only one well (G114), thallium was not detected, and 1,2-dichloroethene was not detected. The fact that the principal contaminants on which the risk assessment for the site was based are not found in the Southeast Corner supports the selection of the No Action alternative for this Operable Unit.

Comment 4. The risk assessment for the Pagel's Landfill Site, including the Southeast Corner, found no significant health risks attributable to the "Present Use" scenario. The adverse health risks calculated for the site were based on the assumptions regarding groundwater use made in the "Future Use" scenario. As the Proposed Plan notes, the Southeast Corner area is part of a larger parcel which is currently being developed for use as a municipal waste landfill. Under this use, the possibility of the future use of the groundwater in the Southeast Corner for drinking, bathing or other human exposures is non-existent. The lack of any prospective human exposure to the groundwater in the Southeast Corner is further support for the selection of the "No Action" alternative for this operable unit.

Main Groundwater Remedy Modification

The Record of Decision and the Work Plan for the main Pagel's Landfill Site Operable Unit includes a groundwater extraction system at the western, downgradient, boundary of the site. The purpose of the groundwater extraction system was to prevent the migration of contaminated groundwater from the western edge of the site and to remove any contaminated groundwater that exceeds the levels specified and that has

passed beyond the western boundary. Thus, the groundwater extraction system was proposed as a hydraulic barrier to prevent the off-site migration of contaminated groundwater.

Comment 1. The Proposed Plan notes that the chloride ion is used as an indicator of areas that may have been affected by leachate from a landfill. The Proposed Plan also includes a discussion of the IEPA approved Groundwater Management Zone at the Pagel's Landfill, and notes that for purposes of the GMZ chlorides and ammonia are used as indicators of groundwater which may have been impacted by the landfill. While both chlorides and ammonia are used to define areas of groundwater which may have been impacted by the landfill, both are substances which are commonly found in the groundwater from other sources. Levels of chlorides, for example, are impacted by septic fields, road salts, dust suppressants, and similar activities.

The use of ammonia as an indicator of groundwater impacted by the landfill also illustrates this problem. Under the applicable IEPA regulations, groundwater quality standards for constituents such as ammonia are established by reference to their upgradient, background levels. Thus, the applicable standards for ammonia downgradient of Pagel's Landfill have been derived from ammonia concentrations in upgradient groundwater. This approach, however, ignores the effect that naturally occurring biological and biochemical processes have on the levels of ammonia in the groundwater in the vicinity of Pagel's. Although downgradient ammonia levels are influenced by the nitrogen cycle in the groundwater, these effects are ignored in establishing the downgradient standard.

Additionally, the use of upgradient groundwater samples as the basis for establishing downgradient ammonia standards also ignores other sources of ammonia which may impact groundwater at the western boundary of Pagel's Landfill. During periods of heavy precipitation, the groundwater in this area is recharged by Kilbruck Creek and the two intermittent streams which lie to the north and south of the landfill. Thus, on a seasonal basis, the groundwater is recharged by surface water containing fertilizer and animal feed-lot run-off from the agricultural uses in the drainage basin and by surface water drainage from the NRG Technologies facility.

Thus, while chlorides and ammonia concentrations are an <u>indication</u> of groundwater which <u>may</u> be impacted by the landfill, they are not a definitive indication of impacts derived exclusively from the landfill.

Comment 2. The Proposed Plan and some of the comments in response to questions raised at the public meetings on the Proposed Plan suggests that it will probably take longer for the groundwater to reach the levels necessary for its use with monitored natural attenuation than with the groundwater extraction system provided for in the ROD. There is no data to support this conclusion. The groundwater extraction system proposed in the ROD was intended to serve as a hydraulic barrier. As such, its purpose was to contain contaminated groundwater within the site boundaries. If this

approach were implemented, the same natural attenuation processes as those described in the Proposed Plan would have operated to reduce contaminant levels in the contained groundwater.

Comment 3. The groundwater contamination at the western boundary of the Pagel's Landfill site has been effectively contained during the period since the Remedial Investigation and Feasibility Study without a man-made hydraulic barrier. At the western boundary of the site, the hydraulic gradients are very low and the groundwater flow is be more influenced by vertical gradients driven by the flow in Kilbruck Creek than by westerly horizontal gradients. The fact that natural processes have contained the contaminants in the groundwater along the western boundary of the Pagel's Landfill for more than eight years supports the selection of monitored natural attenuation as the main groundwater remedy for the site.

Comment 4. As the Proposed Plan notes, the principal groundwater contaminants on which the Risk Assessment for the Pagel's Landfill facility was based were zinc, thallium, arsenic, vinyl chloride, and 1,2-dichloroethene. In the most recent groundwater sampling events, none of these contaminants were detected in the wells along the west of the landfill except for arsenic and zinc. Bother arsenic and zinc are common, naturally occurring, elements which are frequently found in the groundwater in the vicinity. For example, in the Supplemental Technical Investigation for the Acme Solvents Site, zinc was frequently detected in the groundwater at levels consistent with those detected in the vicinity of Pagel's, and in several monitoring wells the levels exceeded the 6.3 mg/l level used for the risk assessment at Pagel's. Nonetheless, zinc was not considered as an element of the risk at the Acme Solvents Site.

Similarly, during the Supplemental Technical Investigation at the Acme Solvents Site, arsenic was detected in the groundwater at levels which were consistent with those detected in the vicinity of Pagel's; several wells showed arsenic contamination in the range of 8 micrograms/liter to 38 micrograms/liter. Arsenic, however, was not considered as an element of the risk at the Acme Solvents Site.

The fact that the two contaminants which were significant contributors to the risk assessment at Pagel's Landfill and which have been recently detected along the western boundary of the landfill are themselves naturally occurring elements historically present in the groundwater in the area supports the selection of monitored natural attenuation for the main groundwater remedy at the site.

Comment 5. Monitored natural attenuation was recently selected by IEPA and USEPA as the groundwater remedy for the Southeast Rockford Groundwater Contamination Site (SER Site), an NPL site located eight to ten miles northeast of Pagel's Landfill Site. The Remedial Investigation at the SER Site determined that the principal source of the groundwater contamination plume was an abandoned former dumpsite known as Area 7.

The VOC contaminant levels in the plume of contamination from Area 7 are thousands of times greater than the levels found downgradient of Pagel's Landfill. For example, levels of 1,1,1-Trichlorethane were as high as 12,000 parts per billion (ppb) downgradient of Area 7, and levels in excess of 1000 ppb extended across an area several miles long.

At the time that monitored natural attenuation was selected for the groundwater operable unit at the SER Site, no source control or source removal remedy had been adopted. In contrast, at the Pagel's Landfill Site, a source control remedy has been adopted and its construction is partially complete, source removal remedies have been performed at Acme Solvents, source control remedies are in place at Acme Solvents, and the downgradient groundwater contamination west of Pagel's landfill (irrespective of its source) only extends several hundred feet. The selection of monitored natural attenuation at the SER Site supports the selection of the same remedial approach for the main groundwater remedy at Pagel's Landfill.

Thank you for the opportunity to comment on the Proposed Plan.

Very truly yours,

John Holmstrom III

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